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MARKETING MARGINS FOR WHITE BREAD

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Reprinted From
The Marketing and Transportation Situation
January 1961

U. S. DEPARTMENT OF AGRICULTURE
Agricultural Marketing Service
Marketing Economics Research Division

AMS-263 (1961)

Growth Through Agricultural Progress

MARKETING MARGINS FOR WHITE BREAD 1/

The total marketing margin (farm-retail spread) for a 1-pound loaf of white bread was 72 percent higher in 1960 than in 1947-49. About four-fifths of this increase was accounted for by a rise in the baker-wholesale margin. The margin taken by each of the other segments of the marketing process also increased. The increase in the total marketing margin was accompanied by a decline of 15 percent in payments to farmers for farm product ingredients and an increase of 50 percent in the retail price. The rise in the retail price of bread was more than double the average increase in all retail food prices and nearly double the rise in the Consumer Price Index in the same period.

The most recent survey of household food consumption for the United States showed that weekly expenditures for white bread for home consumption averaged 73 cents per household in 1955. This expenditure amounted to nearly 3.5 percent of the cost of food bought for consumption at home.

In 1960 the United States average retail price of a 1-pound loaf of white bread was at an all-time high of 20.3 cents--0.6 cent higher than the 1959 price (table 13). In 1960 the retail price was 50 percent higher than the 1947-49 average. Each year during the period 1947-60 consumers paid more for bread than in the preceding year. The increase of 3.0 percent from 1959 to 1960 was smaller than the average annual increase of 3.8 percent for the 1947-60 period, but it was as large or larger than the increase in most of the years during the period. Where has the increase gone and who received it?

Farm-Retail Spread Increases

The difference between the retail price and the farm value of all ingredients used in producing a 1-pound loaf of white bread (the marketing or farm-retail spread) increased from 16.9 cents in 1959 to 17.5 cents in 1960 (table 13). 2/ The farm-retail spread in 1960 was about 72 percent larger than during 1947-49, compared with an increase of 50 percent in the retail price. Like the retail price, it has increased each year. Although all segments of the farm-retail spread increased during the period 1947-60, the baker wholesaler's margin accounted for most of the increase in the spread and in bread prices.

1/ Prepared by J. C. Eiland, agricultural economist, Marketing Economics Research Division, Agricultural Marketing Service.

2/ The farm value is the payment farmers receive for the farm products equivalent to a pound loaf of bread.

Table 13.--White pan bread: Estimated retail and wholesale prices of a 1-pound loaf, retailer, baker-wholesaler, miller, and other gross margins, and estimated farm value of ingredients, average 1947-49, annual 1950-60, and quarterly 1959-60 1/

Year and quarter	Retail price 2/	Retail margin 3/	Wholesale price 4/	Baker-wholesaler margin 5/	Cost to baker: All ingredients 6/	Cost to baker: Flour 7/	Mill sales value of flour 8/	Miller's flour margin 9/	Cost of wheat to miller 10/	Other margins 11/	Farm value: Wheat 12/	Farm value: All ingredients 13/
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
1947-49 average	13.5	2.4	11.1	6.0	5.1	3.5	3.4	0.6	2.8	1.2	2.7	3.3
1950	14.3	2.7	11.6	6.9	4.7	3.4	3.3	.6	2.7	1.1	2.5	3.0
1951	15.7	2.7	13.0	7.8	5.2	3.6	3.4	.6	2.8	1.3	2.6	3.3
1952	16.0	3.0	13.0	8.1	4.9	3.5	3.4	.6	2.8	1.1	2.6	3.2
1953	16.4	2.9	13.5	8.4	5.1	3.7	3.5	.6	2.9	1.4	2.5	3.1
1954	17.1	2.7	14.4	8.9	5.5	4.0	3.8	.6	3.2	1.6	2.7	3.3
1955	17.5	2.6	14.9	9.6	5.3	3.9	3.7	.6	3.1	1.5	2.7	3.2
1956	17.9	2.6	15.3	10.1	5.2	3.7	3.6	.6	3.0	1.4	2.6	3.2
1957	18.8	3.1	15.7	10.5	5.2	3.7	3.6	.6	3.0	1.4	2.6	3.2
1958	19.3	3.1	16.2	11.2	5.0	3.6	3.4	.6	2.8	1.4	2.4	3.0
1959	19.7	3.1	16.6	11.8	4.8	3.5	3.3	.6	2.7	1.4	2.3	2.8
1960 14/	20.3	3.4	16.9	11.9	5.0	3.6	3.4	.7	2.7	1.5	2.3	2.8
1959												
Jan.-Mar.	19.6	3.1	16.5	11.7	4.8	3.4	3.3	.6	2.7	1.4	2.3	2.8
Apr.-June	19.7	3.1	16.6	11.7	4.9	3.5	3.3	.6	2.7	1.5	2.3	2.8
July-Sept.	19.7	3.1	16.6	11.7	4.9	3.5	3.3	.6	2.7	1.5	2.3	2.8
Oct.-Dec.	19.8	3.0	16.8	11.9	4.9	3.5	3.4	.6	2.8	1.4	2.3	2.8
1960												
Jan.-Mar.	19.9	3.2	16.7	11.8	4.9	3.5	3.4	.6	2.8	1.4	2.4	2.9
Apr.-June	20.1	3.4	16.7	11.7	5.0	3.6	3.4	.7	2.7	1.5	2.3	2.8
July-Sept.	20.5	3.5	17.0	12.0	5.0	3.6	3.4	.8	2.6	1.4	2.3	2.8
Oct.-Dec. 14/	20.8	3.7	17.1	12.1	5.0	3.6	3.5	.8	2.7	1.4	2.3	2.8

1/ The retail price, farm value, and farm-retail spread or marketing margin for the years 1919-56 were published in Farm-Retail Spreads for Food Products, U. S. Dept. of Agr., Misc. Pub. 741, Nov. 1957, p. 117. Comparable data for the other series in this table are not available for the years before 1947.

2/ Average of retail prices in urban areas reported by BLS, with adjustments for 1954 and 1955.

3/ Spread between retail and wholesale prices.

4/ Derived from wholesale prices published by the BLS and trade data.

5/ Spread between wholesale price and cost to the baker of all ingredients.

6/ Cost of flour, shortening, nonfat dry milk, sugar, and other ingredients in a pound of bread, adjusted to level of cost to baker as reported in the Census of Manufactures.

7/ Weighted average wholesale value of 0.641 lb. of several types of bread flour in 5 markets, adjusted to the level of cost to baker as reported in the Census of Manufactures.

8/ Weighted average wholesale value of 0.641 lb. of several types of bread flour in 5 markets, adjusted to mill sales level as reported in the Census of Manufactures.

9/ Spread between cost of wheat to miller and sales value of flour.

10/ Weighted average wholesale value in 6 markets of 0.894 lb. of major classes and grades of wheat used for milling bread flour, adjusted to level of cost to miller as reported in the Census of Manufactures and further adjusted to eliminate imputed value of millfeed byproducts.

11/ Margins for transporting, handling, and storing all ingredients and for processing ingredients other than flour. This margin is a residual figure.

12/ Payment to farmers for 0.894 lb. of wheat less imputed value of millfeed byproducts, based on average price received by farmers for all wheat.

13/ Value at prices received by farmers, less byproduct allowances, for the quantity of wheat and other farm products yielding ingredients used in a pound loaf of white bread.

14/ Preliminary.

Slower Increase in Baker-Wholesale Margin

In 1960 the upward movement in the baker-wholesale margin slackened. The annual average margin increased 0.1 cent above the 1959 figure, to 11.9 cents for a 1-pound loaf. This was the smallest annual increase during the 1947-60 period (table 13). This margin declined below the 1959 average in the first half of 1960, but rose above it in the second half. In the final quarter it averaged 12.1 cents. Thus, the upward trend continued but at a slower pace in 1960.

Increases in the baker-wholesale margin and in costs of ingredients to the baker were accompanied by a rise of 0.3 cent in the wholesale price of white bread in 1960.

The wholesale price of a 1-pound loaf of white bread increased from 11.1 cents in 1947-49 to 16.9 cents in 1960. At the same time the cost of all ingredients to the baker declined from 5.1 cents to 5.0 cents. Thus, the baker-wholesale margin was 5.9 cents higher in 1960 than in 1947-49 (fig. 7). This margin accounted for 81 percent of the increase in the farm-retail spread. The baker-wholesale share of the retail price increased from 44 percent in 1947-49 to 59 percent in 1960, while the farmer's share declined from 25 to 14 percent (table 14).

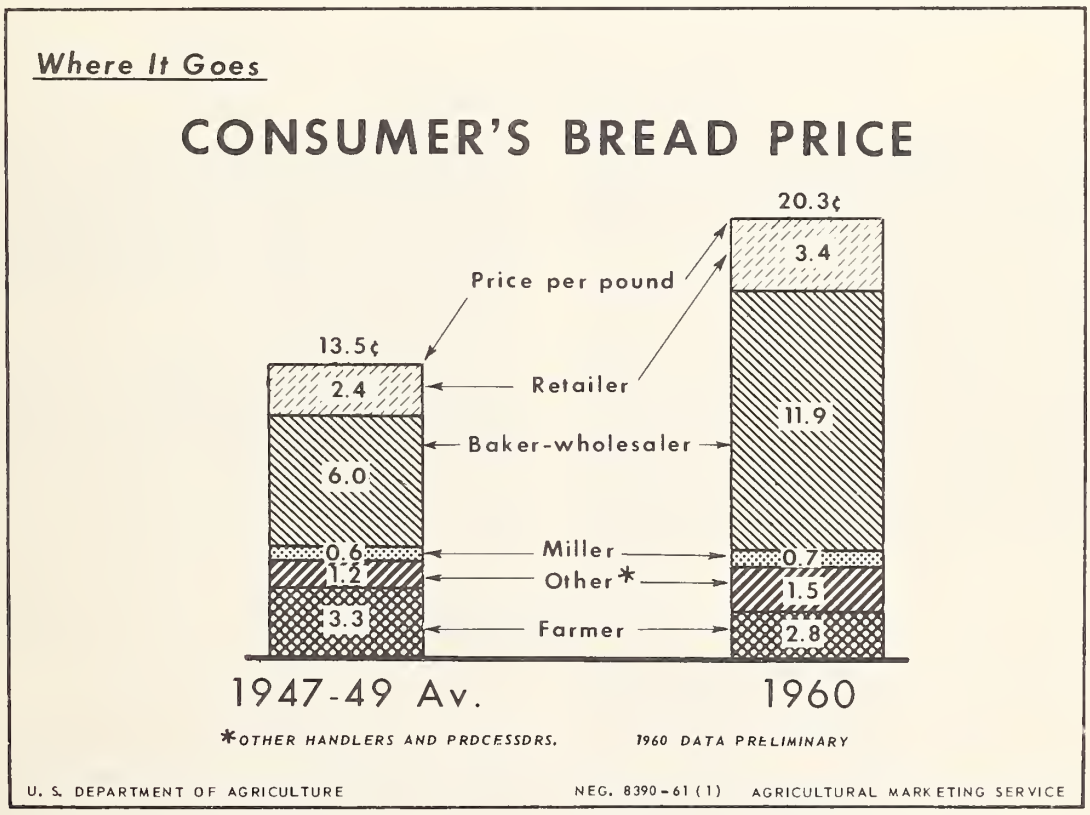

Figure 7

Table 14.--Distribution of the retail price of a 1-pound loaf of white bread among marketing functions and the farmer, 1947-60 1/

Year	Retailing	Baker-wholesaler	Flour mill	Other	Farmer	Total
	Percent	Percent	Percent	Percent	Percent	Percent
1947-49 average	17	44	5	9	25	100
1950	19	48	4	8	21	100
1951	17	50	4	8	21	100
1952	19	50	4	7	20	100
1953	18	51	4	8	19	100
1954	16	52	4	9	19	100
1955	15	55	3	9	18	100
1956	15	56	3	8	18	100
1957	17	56	3	7	17	100
1958	16	58	3	7	16	100
1959	16	60	3	7	14	100
1960 2/	17	59	3	7	14	100

1/ Distribution based on data in table 13.
2/ Preliminary.

Retail Margin Increases

In 1960, the retail margin set an all-time high, averaging 3.4 cents a 1-pound loaf of bread, 0.3 cent higher than in 1959. This increase was the first since 1957. It accounted for about half of the rise in the retail price in 1960 (table 13).

During the period between 1947-49 and 1960, the retail margin climbed about 1 cent (table 13 and fig. 7). Fluctuations in the annual average retail margin resulted generally from retail price increases lagging behind wholesale price increases. Often wholesale price advances are in fractions of a cent, but most retail prices are not quoted in fractions. Thus, the retailer generally has to increase his price a full cent or absorb for a time the wholesale price increase.

Increases in the retail margin from 1947-49 to 1960 accounted for nearly 14 percent of the jump in the farm-retail spread. The retailer's share of the retail price fluctuated around 17 percent (table 14).

Flour Mill Margin

The flour mill margin fluctuated slightly from 1947-49 to 1960, but usually not enough to cause variations in the annual averages when rounded to tenths of a cent. In 1960, this margin averaged 0.7 cent, an increase of 0.1 cent above 1959, and the first change since 1950. Although the margin increased in 1960, it amounted to a lower percentage of the retail price in 1960 than in 1947-49 (table 14).

The price of flour has varied closely with the cost of wheat to the miller, which is evident from the fairly constant mill margin. However, because of increased storage and transportation costs, the spread between the farm value of wheat and cost of wheat to the miller has widened.

Other Marketing Margins Increase

Other marketing margins 3/ making up the remainder of the farm-retail spread increased to 1.5 cents in 1960, up 0.1 cent from 1959 and 0.3 cent from the 1947-49 average (table 13 and fig. 7). These margins accounted for 7 percent of the retail price in 1960, compared with 9 percent in 1947-49 (table 14).

Farm Value of Ingredients Unchanged in 1960

In 1960 the farm value of all farm-produced ingredients used in a pound of white bread was 2.8 cents--the same as in 1959. The farm value of the wheat component also was unchanged at 2.3 cents (table 13). However, the wheat farmer's share of the retail price declined slightly in 1960.

The farm value of all ingredients was 0.5 cent lower in 1960 than in 1947-49. The farmer received about 14 percent of the average retail price in 1960, compared with 25 percent in 1947-49 (table 14).

The farm value of the wheat equivalent to a pound of bread declined from 2.7 cents in 1947-49 to 2.3 cents in 1960--accounting for 0.4 cent of the 0.5 cent decline in farm value of all ingredients (table 13). Farm values of wheat and other farm-produced ingredients each declined about 15 percent from their 1947-49 averages. During 1947-49 the wheat farmer received 20 percent of the retail price; in 1960 he received about 11 percent of a higher retail price.

Some Factors Influencing Baker-Wholesale Margins

Labor costs including fringe benefits represented about 50 percent of the baker-wholesaler's margin in 1957, according to the most recent cost analyses available. 4/ Packaging and wrapping material expenses accounted for about 10 percent; delivery expenses other than wages and salaries, for 9 percent; stale returns, advertising, and promotion expenses, for about 7 percent; depreciation, about 5 percent; and other costs and profits, for the remaining 19 percent.

Labor costs have been a major factor influencing increases in the margin and have increased a little faster than all costs in the aggregate. 5/ Thus, labor costs in 1957 accounted for a slightly larger proportion of the margin than in 1945.

All cost items have increased since World War II, but some have risen proportionately more than costs in the aggregate which increased to nearly 3 times the 1945 level by 1957.

Expense items that increased proportionately more than aggregate costs were wages and salaries, fringe benefits to employees, social security taxes, bakery products bought for resale, advertising and promotion expenses, and depreciation allowances. Items that increased proportionately less than aggregate costs were compensation of officers, packaging and wrapping, all taxes other than social security taxes, and unspecified items. Delivery expenses other than labor increased about in proportion to the aggregate increase.

3/ Margins for transporting, handling, and storing all ingredients and for processing ingredients other than flour.

4/ "Marketing Margins for White Bread," AMS-263, U. S. Dept. Agr., (reprinted from The Marketing and Transportation Situation), July 1958, table 9, p. 21.

5/ The increasing proportion of total costs represented by labor costs is further substantiated by data for 105 baking companies; see Study of Administered Prices in the Bread Industry, Part 12 of Hearing Before The Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, United States Senate, Eighty-Sixth Congress, First Session, U. S. Government Printing Office, 1959, pp. 6588-94.

Factors Affecting Increased Labor Costs

Average hourly earnings of all employees in the bread and other bakery products industry have increased more rapidly than the price of bread. A production worker with earnings from an hour's work could purchase at retail about 15 percent more bread in 1958 than in 1947.

Hourly earnings of production and related workers in the bread and related products industry rose from an average of $1.43 in 1951 to $2.11 in 1959 (table 15). Other labor costs in the form of fringe benefits and social security taxes showed even greater proportionate increases. Dollar sales of the industry increased somewhat less than production labor costs. Consequently, the cost of production labor as a percentage of total sales increased slightly, even though the man-hours worked by production workers per dollar of sales decreased.

The quantity of bread and other bakery products produced per man-hour of production labor continued to increase from 1954 to 1958, according to an analysis of data from the 1958 Census of Manufactures. The output of nonproduction workers per man-hour, which decreased significantly from 1947 to 1954, increased from 1954 to 1958, but still remained below the 1947 level. 6/

Much of the increase in costs of nonproduction labor is the result of the sales and distribution problem of the industry largely caused by (1) a decrease of about 30 percent in the weekly volume of bread and related products distributed per route from 1947 through 1958, (2) a decline in dollar sales per route mile, and (3) the growth of "drop day" and "swing man" operations, which added to the number of salesmen for a given number of routes. 7/ The first and second factors appear to be the result of fewer customers served per route and not decreased sales per customer.

Sales and Profits of Six Baking Companies

Profits (after taxes) of six leading baking companies declined from an average of 4.1 percent of sales in 1947-49 to 2.3 percent in 1959 (table 16). Total sales of these six companies rose almost steadily from 1947-49 to 1959. The 1959 total was nearly double the 1947-49 average, a faster rate of growth than that for the entire industry.

Taxes took somewhat less than half the net income of these companies during 1947-50. After 1950, taxes consistently amounted to more than half their total net income.

Flour Milling Industry Contrasted to Baking Industry

The flour mill margin has remained relatively stable since 1950, while the bakery margin has about doubled. Labor costs have increased in both industries. But the increase has been less significant in raising unit costs in the flour milling industry because (1) labor costs make up a smaller part of its sales, (2) its output per man-hour of production labor increased about 44 percent from 1947 to 1958 (table 17), compared with an increase of less than half that rate for the baking industry, and (3) it has not experienced the sales and distribution problems that have plagued the baking industry.

6/ Employees not classified as production and related workers, according to Census terminology, include those who do sales, administrative, professional work, and clerical work not directly related to the production line records.

7/ The industry has recognized the importance of this sales and distribution problem, and the results of a research study on this subject represented a major portion of the program at the 1960 American Bakers Association Convention.

Table 15.--Hourly earnings of production workers in the bread and other bakery products industry, annual averages, 1951-59

Year	Actual earnings including overtime	Index (1951 = 100)
	Dollars	
1951	1.43	100
1952	1.52	106
1953	1.60	112
1954	1.68	117
1955	1.75	122
1956	1.84	129
1957	1.92	134
1958	2.01	141
1959	2.11	148

Bureau of Labor Statistics, Employment and Earnings.

Table 16.--Sales and profits of six baking companies, 1947-59 1/

Year ended December 31	Sales	Total net income		Net income as a percentage of sales	
		Before taxes	After taxes	Before taxes	After taxes
	1,000 dol.	1,000 dol.	1,000 dol.	Percent	Percent
1947-49 average	535,694	35,472	21,893	6.6	4.1
1947	513,813	30,454	18,634	5.9	3.6
1948	559,621	42,333	26,035	7.6	4.7
1949	533,648	33,629	21,010	6.3	3.9
1950	553,935	37,712	21,436	6.8	3.9
1951	610,911	35,894	17,103	5.9	2.8
1952	641,571	38,962	17,815	6.1	2.8
1953	685,780	40,294	18,692	5.9	2.7
1954	709,534	36,131	18,062	5.1	2.5
1955	764,788	43,717	21,504	5.7	2.8
1956	840,292	44,855	21,761	5.3	2.6
1957	903,998	47,896	23,406	5.3	2.6
1958	933,379	47,019	23,106	5.0	2.5
1959	1,011,791	47,813	23,394	4.7	2.3

1/ To make data comparable throughout, 7 companies are included prior to 1953 when two of the companies merged.

Compiled from Moody's Industrials.

Table 17.--Flour and other grain-mill products industry: Output per production worker man-hour, 1947-58

Year	Index (1947 = 100)	Year	Index (1947 = 100)
1947	100.0	1953	106.1
1948	---	1954	122.1
1949	96.3	1955	127.1
1950	100.0	1956	132.2
1951	99.6	1957	142.6
1952	99.3	1958 1/	144.4

1/ Preliminary.

Indexes of Output Per Man-Hour For Selected Industries, 1939 and 1947-59, Bureau of Labor Statistics, July 1960, p. 10.

Though both industries have faced relatively stable demand for their products, there has been a greater relative reduction in number of flour mills than bakeries. The average capacity per mill increased. Also, the percentage of capacity utilized and production per mill have increased (table 18). Flour mills have been able to keep their unit costs relatively stable because of larger and modernized mills, increased utilization of capacity, and a reduction of about 25 percent in the number of employees. The larger mills, many of which apparently have average unit costs lower than the industry average, have increased their share of total flour production and have kept the flour milling industry's average unit cost from rising as much as factor prices.

Table 18.--Number of flour mills, flour production, and proportion of capacity utilized, 1946-59

Year	Mills above 400 cwt. daily capacity 1/	Flour production		Proportion of capacity utilized
		Total	Per mill	
	Number	1,000 cwt.	1,000 cwt.	Percent
1946	426	278,900	655	77
1947	---	305,499	---	86
1948	426	279,133	655	74
1949	386	234,351	607	78
1950	377	224,899	597	79
1951	335	229,292	684	79
1952	335	228,148	681	80
1953	320	222,177	694	81
1954	302	221,405	733	81
1955	295	225,648	763	83
1956	293	229,758	784	84
1957	286	238,888	835	87
1958	285	246,155	864	88
1959	282	248,494	881	87

1/ In 1950, the last year of a complete milling survey, mills with a daily capacity of 401 cwt. or more represented 91 percent of the industry capacity and 97 percent of the total wheat flour production.

Bureau of the Census, "Flour Milling Products," Current Industrial Reports (formerly Facts for Industry).